



Please type a plus sign (+) inside this box → ☒

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number.

Approved for use through 10/31/2002. OMB 0661-0061
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

PTO/SB/21 (05-00)

44/2171
#2
RECEIVED
FEB 05 2002
Technology Center 2100

TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Applicati n Numb r	10/032,790	
	Filing Date	October 24, 2002	
	First Named Inventor	Daniel A. Keys	
	Group Art Unit	Unknown	
	Examiner Name	Unknown	
Total Number of Pages in This Submission	15	Attorney Docket Number	2064-181

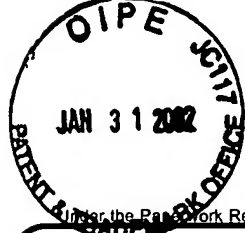
(plus references) ENCLOSURES (check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers (for an Application) <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Return postcard
Remarks		

RECEIVED
APR 11 2002
TC 1700

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	D. David Hill
Signature	
Date	January 17, 2002

CERTIFICATE OF MAILING			
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231 on this date: 1-17-02			
Typed or printed name	Joyce E. Davis	Date	1-17-02
Signature		Date	1-17-02

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



PTO/SB/17 (11-01)
Approved for use through 10/31/2002. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

FEE TRANSMITTAL for FY 2002

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$)-0-

Complete if Known

Application Number 10/032,790
Filing Date October 24, 2000
First Named Inventor Daniel A. Keys
Examiner Name Unknown
Group Art Unit Unknown
Attorney Docket No. 2064-181

RECEIVED
FEB 03 2002
Technology Center 2100

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number 02-1660
Deposit Account Name Beckman Coulter, Inc.

The Commissioner is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☐ Credit any overpayments

☒ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity	Small Entity	Fee Description	Fee Paid
Fee Code (\$)	Fee Code (\$)		
101 740	201 370	Utility filing fee	
106 330	206 165	Design filing fee	
107 510	207 255	Plant filing fee	
108 740	208 370	Reissue filing fee	
114 160	214 80	Provisional filing fee	

SUBTOTAL (1) (\$)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Extra Claims Fee from below Fee Paid
Total Claims Independent Claims -20** = X =
Multiple Dependent Claims -3** = X =

Large Entity	Small Entity	Fee Description
Fee Code (\$)	Fee Code (\$)	
103 18	203 9	Claims in excess of 20
102 84	202 42	Independent claims in excess of 3
104 280	204 140	Multiple dependent claim, if not paid
109 84	209 42	** Reissue independent claims over original patent
110 18	210 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
105 130	205 65	Surcharge - late filing fee or oath	
127 50	227 25	Surcharge - late provisional filing fee or cover sheet	
139 130	139 130	Non-English specification	
147 2,520	147 2,520	For filing a request for <i>ex parte</i> reexamination	
112 920*	112 920*	Requesting publication of SIR prior to Examiner action	
113 1,840*	113 1,840*	Requesting publication of SIR after Examiner action	
115 110	215 55	Extension for reply within first month	
116 400	216 200	Extension for reply within second month	
117 920	217 460	Extension for reply within third month	
118 1,440	218 720	Extension for reply within fourth month	
128 1,960	228 980	Extension for reply within fifth month	
119 320	219 160	Notice of Appeal	
120 320	220 160	Filing a brief in support of an appeal	
121 280	221 140	Request for oral hearing	
138 1,510	138 1,510	Petition to institute a public use proceeding	
140 110	240 55	Petition to revive - unavoidable	
141 1,280	241 640	Petition to revive - unintentional	
142 1,280	242 640	Utility issue fee (or reissue)	
143 460	243 230	Design issue fee	
144 620	244 310	Plant issue fee	
122 130	122 130	Petitions to the Commissioner	
123 50	123 50	Processing fee under 37 CFR 1.17(q)	
126 180	126 180	Submission of Information Disclosure Stmt	
581 40	581 40	Recording each patent assignment per property (times number of properties)	
146 740	246 370	Filing a submission after final rejection (37 CFR § 1.129(a))	
149 740	249 370	For each additional invention to be examined (37 CFR § 1.129(b))	
179 740	279 370	Request for Continued Examination (RCE)	
169 900	169 900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$)

SUBMITTED BY

Name (Print/Type) D. David Hill Registration No. (Attorney/Agent) 35,543 Telephone 714/773-6929
Signature [Signature] Date 1-17-02

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

Burden Hour Statement: This form is estimated to take 0.2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



GP/2171

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

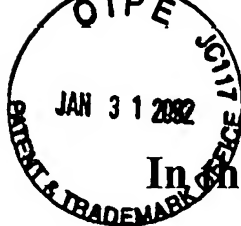
RECEIVED
FEB 05 2002
Technology Center 2100

Applicant: Daniel A. Keys and Parameswara Reddy)
Serial No: 10/032,790)
Filed : October 24, 2001)
For : METHOD AND APPARATUS FOR) Attorney Dkt. No.
INCREASING THE DYNAMIC) 3501.115 (2064-181)
RANGE AND ACCURACY OF)
BINDING ASSAYS)

INFORMATION DISCLOSURE STATEMENT
PURSUANT TO 37 CFR §§ 1.197(b)(1) and 1.56

Assistant Commissioner for Patents
Washington, D. C. 20231

References 1 of 2



In the United States Patent & Trademark Office

In re Application of:

Daniel A. Keys and M. Parameswara Reddy

Serial No.: Unknown

Filed: Unknown

Title: **Method and Apparatus for
Increasing the Dynamic Range and
Accuracy of Binding Assays**

Examiner:

Art Unit:

Atty Dkt. No.: 3501.115

INFORMATION DISCLOSURE STATEMENT PURSUANT TO 37 CFR §§ 1.197(b)(1) AND 1.56

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

In accordance with 37 CFR §§ 1.97 and 1.56, Applicant herewith submits the following Information Disclosure Statement. A copy of all cited documents are enclosed herewith.

This Information Disclosure Statement is being submitted within 3 months of the filing date of the present application. Accordingly, no fee is required for its consideration and for the consideration of the cited documents. The cited documents are:

AA1	3,791,932 U.S. (Schuurs, et al.)	AD4	5,691,147 U.S. (Draetta, et al.)
AB1	4,016,043 U.S. (Schuurs, et al.)	AE4	5,698,411 U.S. (Lucas, et al.)
AC1	4,185,084 U.S. (Mochida, et al.)	AA5	5,747,352 U.S. (Yan, et al.)
AD1	4,243,749 U.S. (Sadeh, et al.)	AB5	5,754,229 U.S. (Elabd)
AE1	4,313,734 U.S. (Leuving)	AC5	5,772,926 U.S. (Akhavan-Tafti)
AA2	4,373,932 U.S. (Gribnau, et al.)	AD5	5,811,526 U.S. (Davidson)
AB2	4,401,764 U.S. (Smith)	AE5	5,843,651 U.S. (Stimpson, et al.)
AC2	4,661,444 U.S. (Li)	AA6	5,851,778 U.S. (Oh, et al.)
AD2	4,746,631 U.S. (Clagett)	AB6	5,876,935 U.S. (Pankratz, et al.)
AE2	4,810,096 U.S. (Russell, et al.)	AC6	5,965,736 U.S. (Akhavan-Tafti)
AA3	5,198,670 U.S. (VanCauter, et al.)	AD6	5,976,822 U.S. (Landrum, et al.)
AB3	5,306,468 U.S. (Anderson, et al.)	AE6	6,045,727 U.S. (Akhavan-Tafti, et al.)
AC3	5,501,985 U.S. (Baugher, et al.)	AA7	6,045,991 U.S. (Akhavan-Tafti)
AD3	5,563,036 U.S. (Peterson, et al.)	AB7	6,139,782 U.S. (Akhavan-Tafti, et al.)
AE3	5,599,668 U.S. (Stimpson, et al.)	AC7	6,177,958 U.S. (Anderson)
AA4	5,627,080 U.S. (Cheng, et al.)	AD7	6,212,291 U.S. (Wang, et al.)
AB4	5,633,141 U.S. (Lee, et al.)	AE7	6,218,137 U.S. (Akhavan-Tafti, et al.)
AC4	5,679,525 U.S. (Peterson, et al.)	AA8	6,270,695 U.S. (Akhavan-Tafti, et al.)

AB8 6,090,571 U.S. (Akhavan-Tafti, et al.)

AL1 EP 177,191

AM1 GB 2,084,317

- AR1 Bass, D.A. *et al.* "Flow cytometric studies of oxidative product formation by neutrophils: a graded response to membrane stimulation." *J. Immunol.* 130: 1910-1917.
- AS1 Bode, W. *et al.* 1989, "Human leukocyte and porcine pancreatic elastase: X-ray crystal structures, mechanism, substrate specificity and mechanism-based inhibitors," *Biochem.* 28:1951-1963.
- AT1 Coates, P.M. *et al.*, 1975, "A preliminary genetic interpretation of the esterase isozymes of human tissues," *Ann. Hum. Genet. Lond.* 39: 1-20.
- AR2 Crockard, A. *et al.*, 1982, "Cytochemistry of acid hydrolases in chronic B- and T-cell leukemias," *Am. J. Clin. Pathol.* 78:437-444.
- AS2 Dujardin F.H., *et al.*, "Quantitative assessment of cortical bone remodelling from routine radiographs of total hip arthroplasty," *Med. Eng. Phys.* 1996 Sep; 18(6): 489-94.
- AT2 Ferrer-Lopez, P. *et al.*, "Heparin Inhibits Neutrophil-Induced Platelet Activation Via Cathepsin", *J. Lab Clin. Med.* 119(3), 231-239 (1992).
- AR3 Fleischer, B., 1994, "CD26: a surface protease involved in T-cell activation," *Immunol. Today* 15: 180-184.
- AS3 Fowler A., *et al.*, "A multi-modality assay platform for ultra-high throughput screening," *Curr. Pharm. Biotechnol.* 2000 Nov;1(3):265-81.
- AT3 Gartner, T.K. *et al.*, 1985, "The tetrapeptide analogue of the alpha chain and decapeptide analogue of the gamma chain of fibrinogen bind to different sites on the platelet fibrinogen receptor," *Blood* 66 Suppl 1: 305a.
- AR4 Hegen, M. *et al.*, 1993, "Enzymatic activity of CD26 (dipeptidylpeptidase IV) is not required for its signalling function in T cells," *Immunobiology* 189: 483-493.
- AS4 Hoffmann, T. *et al.* 1993, "Dipeptidyl peptidase IV (CD 26) and aminopeptidase N (CD 13) catalyzed hydrolysis of cytokines and peptides with N-terminal cytokine sequences," *FEBS Letters* 336: 61-64.
- AT4 Hohn, P.A. *et al.*, 1989, "Genomic organization and chromosomal localization of the human cathepsin G gene," *J. Biol. Chem.* 264: 13412-13419.
- AR5 Houze T.A., *et al.*, "Detection of thymidylate synthase gene expression levels in formalin-fixed paraffin embedded tissue by semiquantitative, nonradioactive reverse transcriptase polymerase chain reaction," *Tumour Biol.* 1997;18(1):53-68.

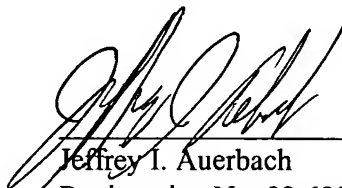
- AS5 Jongkind, J.F. *et al.*, 1986, "Detection of acid-b-galactosidase activity in viable human fibroblasts by flow cytometry," *Cytometry* 7:463-466.
- AT5 Kankaanranta, H. *et al.*, 1994, "Effects of non-steroidal anti-inflammatory drugs on polymorphonuclear leukocyte functions in vitro: focus on fenamates," *Naunyn-Schmiedeberg's Arch Pharmacol.* 350:685-691.
- AR6 Kohen, E. *et al.*, 1993, "An in situ study of beta-glucosidase activity in normal and gaucher fibroblasts with fluorogenic probes," *Cell Biochem. and Function* 11:167-177.
- AS6 Kojima, K. *et al.*, 1979, "A new and highly sensitive fluorescence assay for collagenase-like peptidase activity," *Anal. Biochem.* 100: 43-50.
- AT6 Li, C.Y. *et al.*, 1970, "Acid phosphatase isoenzyme in human leukocytes in normal and pathologic conditions," *J. Histochem. Cytochem.* 18:473-481.
- AR7 Manzella S.M., *et al.* "A biphasic radiometric assay of glycogenin using the hydrophobic acceptor n-dodecyl-beta-D-maltoside," *Anal. Biochem.* 1994 Feb 1;216(2):383-91.
- AS7 McDonald, J.A. *et al.*, 1980, "Degradation of fibronectin by human leukocyte elastase," *J. Biol. Chem.* 255: 8848-8858.
- AT7 Mentlein, R. *et al.*, H. R., "Influence of Pregnancy on Dipeptidyl Peptidase IV Activity (CD26 Leukocyte Differentiation Antigen) of Circulating Lymphocytes", *Eur. J. Clin. Chem. Clin. Biochem.*, 29, 477-480 (1991).
- AR8 Messler P., *et al.*, "Instrumentation for multiwavelengths excitation imaging," *J. Neurosci. Methods* 1996 Nov;69(2):137-47).
- AS8 Rotman, B. *et al.*, 1963, "Fluorogenic substrates for b-D-galactosidases and phosphatases derived from fluorescein (3,6-dihydroxyfluoran) and its monomethyl ether," *Proc. Nat. Acad. Sci. USA* 50:1-6.
- AT8 Royer, G. *et al.*, "Immobilized Derivatives of Leucine Aminopeptidase and Aminopeptidase M.," *J. Biol. Chem.* 248(5), 1807-1812 (1973).
- AR9 Ruiz, P. *et al.*, 1996, "Cytofluorographic evidence that thymocyte dipeptidyl peptidase IV (CD26) activity is altered with stage of ontogeny and apoptotic status," *Cytometry* 23: 322-329.
- AS9 Sanderink, G.J., *et al.*, 1988, "Human Aminopeptidases: A Review of the Literature. *J. Clin. Chem. Clin. Biochem.* 26: 795-807.
- AT9 Schon, E. *et al.*, "The role of dipeptidyl peptidase IV in human T lymphocyte activation. Inhibitors and antibodies against dipeptidyl peptidase IV suppress lymphocyte proliferation and immunoglobulin synthesis in vitro," *Eur. J. Immunol.* 1987 Dec;17(12):1821-6.

- AR10 Stein, R.L. *et al.* 1987, "Catalysis by human leukocyte elastase: Mechanistic insights into specificity requirements," *Biochem.* 26:1301-1305.
- AS10 Stein, R.L. *et al.* 1987, "Catalysis by human leukocyte elastase: Proton inventory as a mechanistic probe," *Biochem.* 26:1305-1314.
- AT10 Tanaka, T. *et al.*, 1993, "The costimulatory activity of the CD26 antigen requires dipeptidyl peptidase IV enzymatic activity," *Proc. Natl. Acad. Sci. USA* 90: 4586-4590.
- AR11 Thiele, D.L. *et al.*, 1990, "Mechanism of L-leucyl-L-leucine methyl ester-mediated killing of cytotoxic lymphocytes: Dependence on a lysosomal thiol protease, dipeptidyl peptidase I, that is enriched in these cells," *Proc. Natl. Acad. Sci. USA* 87: 83-87.
- AS11 Weiss, S.J. 1989, "Tissue destruction by neutrophils," *N. Eng. J. Med.* 320: 365-376.
- AT11 Whitlock, C.A., *et al.*, 1987. "Bone marrow stromal cell lines with lymphopoietic activity express high levels of a pre-B neoplasia-associated molecule," *Cell* 48: 1009-1021.
- AR12 Woessner, J.F. Jr., 1991, "Matrix metalloproteinases and their inhibitors in connective tissue remodeling," *FASEB J.* 5: 2145-2154.
- AS12 Wu, Q. *et al.*, 1991. "Aminopeptidase A activity of the murine B-lymphocyte differentiation antigen BP-1/6C3," *Proc. Natl. Acad. Sci, USA* 88: 676-680.

The Examiner is requested to contact the undersigned immediately in the event that any cited document may be unavailable in order that a replacement copy can be provided.

Respectfully submitted,

Date: 11/2/2001



Jeffrey I. Auerbach
Registration No. 32,680